

WHAT IS CLAIMED IS:

1. An amplifier circuit for providing drive signals to a load, comprising:
an input for receiving data signals;
a first circuit coupled with said input and having components operated at a first
voltage and said first circuit adapted for providing a current signal indicative of said data
signals; and
a second circuit coupled with said first circuit and having components operated at a
second voltage for providing a drive signal to said load, wherein said first circuit and said
second circuit are cooperable for providing a class AB drive current to said load.

10 2. The amplifier of Claim 1, wherein said second circuit further including a
mirror circuit for mirroring said current signal provided by said first circuit at a
predetermined mirror ratio for providing said drive current.

15 3. The amplifier of Claim 2, wherein said predetermined mirror ratio is fifty to
one.

20 4. The amplifier of Claim 1, wherein said second voltage is approximately 4-5
times that of said first voltage.

5. The amplifier of Claim 1, wherein said first circuit comprises transistors operable from a supply rail providing approximately five volts and said second circuit comprises transistors operable from a supply rail providing a voltage in range of 22 volts to 25 volts.

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6. The amplifier of Claim 1, wherein said drive signal has a current of approximately 250 micro amperes in the steady state condition.

7. The amplifier of Claim 1, wherein said second circuit includes a first branch 10 for receiving from said first circuit a source/sink current indicative of said data signals and a second branch for outputting said drive signal to said load, wherein said drive signal current is a predetermined ratio of said source/sink current.

8. The amplifier of Claim 1, wherein said input is a differential input for 15 receiving a digital-to-analog converted data signal and a reference signal.

9. The amplifier of Claim 1, wherein said input, said first circuit, and said second circuit are integrated on a semiconductor chip.

20 10. An amplifier circuit for providing drive signals to a piezo element provided for positioning a head in a mass data storage device, comprising:

- an input for receiving data signals indicative of head positioning;
a first circuit coupled with said input and having components operated at a first voltage and said first circuit adapted for providing a current signal indicative of said data signals; and
- 5 a second circuit coupled with said first circuit and having components operated at a second voltage for providing a drive signal to said piezo element, wherein said first circuit and said second circuit are cooperable for providing a class AB drive current to said piezo element.
- 10 11. The amplifier of Claim 10, wherein said second circuit further including a mirror circuit for mirroring said current signal provided by said first circuit at a predetermined mirror ratio for providing said drive current.
- 15 12. The amplifier of Claim 11, wherein said predetermined mirror ratio is fifty to one.
13. The amplifier of Claim 10, wherein said second voltage is approximately 4-5 times that of said first voltage.
- 20 14. The amplifier of Claim 10, wherein said first circuit comprises transistors operable from a supply rail providing approximately five volts and said second circuit

comprises transistors operable from a supply rail providing a voltage in range of 22 volts to 25 volts.

15. The amplifier of Claim 10, wherein said drive signal has a current of
5 approximately 250 micro amperes in the steady state condition.

16. The amplifier of Claim 10, wherein said second circuit includes a first branch for receiving from said first circuit a source/sink current indicative of said data signals and a second branch for outputting said drive signal to said piezo element, wherein said drive
10 signal current is a predetermined ratio of said source/sink current.

17. The amplifier of Claim 10, wherein said input is a differential input for receiving a digital-to-analog converted data signal and a reference signal.

15 18. The amplifier of Claim 10, wherein said input, said first circuit, and said second circuit are integrated on a semiconductor chip.

19. An amplifier on a semiconductor chip for providing a drive signal indicative of a data input signal to a capacitive load, said amplifier comprising:

an input for receiving said data input signal;
a first transistor circuit coupled to said input and adapted for converting said data input signal to a corresponding current signal, said first transistor circuit is further couplable to a first supply rail for receiving a first voltage for operating transistors therein;

5 a second transistor circuit coupled to said first transistor circuit for receiving said current signal and adapted to amplify the magnitude thereof, said second transistor circuit is further couplable to a second supply rail for receiving a second voltage for operating transistors therein; wherein

10 said first transistor circuit and said second transistor circuit are integrated for providing a class AB operable current; and

an output coupled to said second transistor circuit for outputting said class AB operable current to said capacitive load.

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20. The amplifier of Claim 19, wherein said first voltage is in a range of approximately five volts and said second voltage is in a range of approximately 24 volts.